BUSINESS CARD PRESENTATION VIA MOBILE PHONE

BACKGROUND OF THE INVENTION

1. Technical Field:

The present invention relates in general to cellular telephones, and in particular to user features of cellular telephones. Still more particularly, the present invention relates to a method and system for storing and providing electronic business cards to another cellular telephone user.

2. Description of the Related Art:

The utilization of cellular telephones (cell phones) is becoming increasingly popular in today's wireless environment. Cellular phone service is provided for both business use and personal use via individual cellular phones, which connect to particular cellular service providers, such as Sprint and GTE.

The popularity of cellular phones has led to growing desire for improvements in available features (both hardware and software) for user satisfaction. The major improvements have included the creation of light-weight phones and inclusion of advanced features, such as web access, call waiting, caller ID, time display, etc. Some of these features are provided as a menu option that may be enabled or disabled, i.e., turned on or off, by the user.

The convenience of utilizing cellular phones to conduct business, particularly when the user is outside of a "traditional" office setting is very important reason for the fast expansion of cellular phone use. An individual is able to keep in touch with his office and with other business contacts --old and new-- while outside of his office.

Typically, when a new contact is made, either business or personal, the preferred method of providing business contact information is with a business card. When a person desires to give a customer or client a business card, the card must be physically presented to the recipient. Providing a potential customer or client with a business card allows the business person to establish a "foothold" with a customer in a professional manner.

In today's global business environment, with the wide proliferation of cell phones and the frequency with which business is conducted over these cellular phones, a large number of business contacts are made over the cellular phones. Consequently, a business person is often not in the physical presence of his new contact (customer or client) and thus, when conducting business via a cellular phone, the business person is unable to immediately present a business card to the contact. Therefore, the business person has to resort to mailing the business card to the contact or providing his contact information verbally over the cellular phone. This mode of establishing new business contacts is not desirable, since it involves extra steps to get the business card to the contact and/or forces the contact to have to write the information down on a sheet of paper. Additionally, since the first impression is the one which ultimately determines if the potential customer or client in fact becomes a customer/client, providing that professionally done business card with all required contact information goes a long way in appealing to the sense of professionalism.

With present cellular phone design, caller ID information is provided to a call recipient when a call is received on the recipient's cellular phone. The identified number may then be stored on the recipient's phone. However, this information is often limited to the caller's number, and the caller's name is often not provided for the recipient to recognize this number for later contact, the call recipient has to manually enter the remaining data that may be relevant, such as the caller's name and address, etc. Further,

it is usually the person from whom the call originates, who wishes the recipient to have the information readily available for a later contact.

The present invention recognizes that it would be desirable to be able to immediately provide remotely-contacted customers or clients with a business card. A method and system by which a user communicating via a cellular phone can electronically transmit a business card via his cellular telephone to a contact's cellular phone would be a welcomed improvement. These and other benefits are provided by the invention described herein.

SUMMARY OF THE INVENTION

A method for providing an electronic business card to a contact via a cellular phone is disclosed. Several business card menu options are provided to a user of a cellular telephone. The cellular phone user enters business card information/data into the cellular phone utilizing the business card menu options and cellular phone keypad. The business card data is stored locally on the cellular phone or in a database maintained by the service provider. When the user is in communication via cellular phone with someone he wishes to provide his business card to, the user selects a menu item that activates the transmission of the electronic business card to the desired recipient's cellular phone.

When the desired recipient has received the business card, an alert is provided to the recipient, who may then save the card on his cellular phone or at the service provider's database, if available. The user is thus able to directly provide his business card to the recipient without being in physical presence of the recipient. In one embodiment, the recipient may actually transmit an electronic request for the business card and the user responds to the request by transmitting the card.

Once the data of a business card is stored, the user/recipient is able to access the card data and/or initiate a call to the phone number on the card as a selectable menu option. In advanced cellular phones, having email capability, the user may also create and transmit an email to the email address located on the electronic business card as a selectable menu option.

The above as well as additional objects, features, and advantages of the present invention will become apparent in the following detailed written description.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself however, as well as a preferred mode of use, further objects and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

Figure 1 illustrates a block diagram of component parts of a cellular telephone system in which a preferred embodiment of the present invention may be implemented;

Figure 2 depicts a frontal view of a cellular telephone in accordance with one embodiment of the present invention;

Figure 3 is a high level flow chart of the process of entering business card data and transmitting the business card to a recipient in accordance with one embodiment of the present invention;

Figure 4 is a high level flow chart of the recipient-side process for receiving and storing an electronic business card on a cellular telephone in accordance with one embodiment of the present invention; and

Figure 5 depicts a series of menu options displayed on a cellular telephone by which the business card data may be entered and subsequently transmitted and stored in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENT

With reference now to the figures and in particular with reference to **Figure 1**, there is depicted a block diagram of component parts of a cellular telephone **110** in which a preferred embodiment of the present invention may be implemented. Those skilled in the art will appreciate that other types of wireless telephone systems may be utilized in accordance with a preferred embodiment of the present invention and that cellular telephone **110** as described herein is only one such embodiment that is presented for illustrative purposes only. Cellular telephone **110** communicates with a service provider via cellular network **112** that typically includes base station **114** having base station antenna **116** and mobile switching center (MSC) **118**. MSC **118** is a switch that provides services and coordination between mobile wireless telephone users in a cellular network **112** and other external networks. MSC **118** controls system operations in analog and digital cellular networks. For example, MSC **118** controls calls, tracks billing information, and locates wireless subscribers. In one embodiment, service provider also provides a database **108** within cellular network **112** at which each cellular phone subscriber is permitted to store electronic business cards, including cards entered on the subscriber's cellular phone and cards received from other cellular phone user's, as described further below.

Cellular phone **110** includes antenna **119** for transmitting and receiving signals over wireless radio channels. Cellular phone **110** also includes wireless telephone transceiver **120**, (which comprises receiver **122**, transmitter **124** and audio circuitry **126**) microcomputer **130**, keypad **140**, display **180**, audio switch **150**, and audio interface **160**, including speaker **162** and microphone **164**. Microcomputer **130** is a computer built around a single chip microprocessor. Less powerful than mini-computers and mainframe computers, microcomputer **130** is nevertheless capable of complex tasks involving the processing of logical operations. Microcomputer **130**

includes a central processing unit (CPU) (i.e., not shown), which is the computational

and control unit of microcomputer **130**, and which interprets and executes instructions

for cellular phone **110**. Microcomputer **130** further includes memory component (not

shown) in which business card data, inputted by the user or received on cellular phone

5   **110**, may be stored. Memory component is preferably a non-volatile memory

component, which also stores program code required for the operation of cellular

phone **110**, and program code for providing the various features of the present

invention, such as displaying selectable menu items and receiving user entered

business card data.

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Display **180** can be any type of display device which visually presents data to

a cellular telephone user. Display devices such as a liquid crystal display or a plasma

display can be utilized to implement display **180**. Display **180**, when utilized in the

present invention, preferably provides clear textual and/or graphical representations

15 such that scaled, visible output of a business card is clearly legible to a user.

Keypad **140** comprises a set of keys or depressible buttons that are mounted

on a small keyboard and are dedicated to a specific purpose, such as receiving

numerical input or menu option selection. Keypad **140** is preferably modeled after

20 the standard telephone keypad. The architecture and control of the illustrated cellular

phone is for illustrative purposes only and should not be utilized to limit the scope of

the present invention.

Figure 2 illustrates one embodiment of a frontal view of an assembled cellular

25 phone **110** with display screen and selectable option buttons (keypad **140** and other

functional buttons). Display screen **180** of cellular phone **110** displays general menu

with selectable menu item 4, "Business Card" **205**. Also visible on display screen

180 are battery power icon **207**, greeting bar **209** with date, cell number, and time

stamp, and signal icon **203**. Cellular phone **110** also includes alphanumeric keypad **140**, menu button **211**, OK button **213**, end button **215**, and talk button **217**. Also included are up and down scroll buttons **219** by which the user may scroll through the various menu items and input-requesting options to provide the functional features of the invention. Cellular phone **110** may also include various other components. However these additional components are not necessary for the description of the invention and not provided herein.

As illustrated in **Figure 2**, the present invention adds at least one menu item, Business Card **205**, to the general menu content available on cellular telephone **110**. The invention further provides a method by which the entered Business Card may be transmitted to a business or personal contact via cellular phone **110**.

The invention allows a user communicating over a cellular telephone to instantaneously present a business card to someone (e.g., client or a customer) without having to be in the physical presence of that person. The inventor also allows a user to access a stored business card from his mobile phone and dial the number listed on the business card or, in one embodiment, transmit an email to the email address on the business card.

In the preferred embodiment, an electronic representation of a business card is stored in the non-volatile memory of the cellular phone. The user's business card is initially created on the cellular phone using designated menu functions which allow entry of the data constituting the business card. The business card data that is stored may consist of but is not limited to: (1) Business Name; (2) Contact Name; (3) Address; (4) Telephone Number; (5) Fax Number; (6) Email Address; and (7) Business Web Address.

Once the business card data has been stored, it may be transmitted to a customer/client by accessing the menu function designated for that purpose. When this menu function is invoked, the business card data is encoded by the cellular phone and transmitted over the cellular network to the party or parties engaged in the phone call. When the data is received it is stored utilizing menu functions on the recipient's cellular phone (subject to acceptance by the recipient). The business card can then be viewed on the display of the recipient's cellular phone. Business cards can be retained in the cellular phone or downloaded from the cellular phone to a specific mailbox, which is dedicated for storing business card-type data. The mailbox is preferably a database location provided by the service provider to the cellular phone user. When the business card is downloaded, the cellular phone will retain only a link (business name or contact's name) to the business card, thus freeing up the memory of the cellular phone. When access to a downloaded business card is needed, the user simply selects the link and then selects a "Get Business Card" menu function. The cellular phone then connects with the mailbox, which transmits the selected business card to the mobile phone for viewing. A phone call can be placed to the number shown on the business card by selecting the business card and pressing the phone's dial function. With voice activated dialing, the user may simply say "CALL" when the business card is being displayed to initiate the call.

Figure 3 illustrates a process by which the present invention may be implemented. The process begins at block **301**, and thereafter, a user creates an electronic business card by inputting relevant data constituting the business card into the cellular phone as illustrated at block **303**. In order to do this, the user first selects Business Card menu item (or option 4), then selects the appropriate menu function, i.e., item 3 illustrated in **Figure 4**, using the alpha-numeric keys of keypad **140** or other function buttons of the cellular phone. The business card data is then stored as shown at block **305**. In one embodiment, the business card data is stored in the non-

volatile memory of the cell phone dedicated to storing business-card data. In another

embodiment, the business card data is stored in a user-allocated storage location (i.e.,

mailbox) of a database provided by the service provider. With this second

embodiment, the service provider allows the user to store up to a certain number of

business cards, e.g., up to 1KB of data, remotely at the database to prevent the user

having to store that much information in his cellular phone's memory, which may be

utilized for other general information storage. Of course, the invention recognizes

that with the improvements in silicon technology and logic design, storage of large

number's of business cards in the memory of the cellular phone may not be as

burdensome on the cellular phone's available memory. In another embodiment, the

business card data can be downloaded into a contact list on a personal computer or a

PDA.

Once a business card has been stored into the cellular phone, the business card

may be sent to a recipient's cell phone. Returning to **Figure 3**, initiation of the

transfer of the business card may be by the user or by the intended recipient. As

illustrated in block **307**, a call is initiated by either the user or the potential recipient.

By monitoring selectable menu items, a determination is made at block **309**, either

before or during the call, whether the user desires to transmit a card to a recipient's

cellular phone. The user may not consider transmitting a business card; however, the

potential recipient may desire a card and transmit a verbal or electronic request for the

business card as shown at block **311**. If the user desires to transmit a business card or

a request is received from the potential recipient for a business card, the user then

activates an in-call menu item for the business card as shown at block **313**. Function

menu **503** of **Figure 5** illustrates one representative display of functions available to

user once the user activates the in-call menu item. The user may then select the

business card via option 4 of function menu **503** as shown in block **315**. Selection of

a business card is required when there are several different cards entered by the user

or stored within the user's business card database. For example, the user may have several different versions of a business cards, several different businesses necessitating different cards, and/or other cards entered or received for other business contacts. Preferably, the user is able to select one business card to operate as a default business card, and any request for a business card, which is not preceded by a selection process from among the various available business cards, automatically provides the default business card.

Returning again to **Figure 3**, following the selection of a business card, the user selects option 1 of function menu **503** to transmit the business card as shown at block **317**. A determination is made at block **319**, whether a tracking function is on, by which a list of all recipients of a user's business card is stored by the cellular phone. The stored list enables a user to track the persons with whom he has made contact and who have copies of his business cards. If the tracking feature is enabled, then the recipient information is recorded as shown at block **321**. Then, the process ends as illustrated at block **323**.

To enable smooth transmission and receipt of the business card, the user of the cellular phone may first inform the recipient that he/she is sending his/her business card. As illustrated in **Figure 5**, once the appropriate menu function, i.e., "1 send bus card", is activated, the cellular phone **501** encodes the stored business card data for transmission to the recipient's cellular phone **505** via the cellular network **512**. **Figure 4** provides a flow chart of the process of receiving a transmitted business card on recipient's cellular phone **505**. The process begins at block **401**, and the recipient transmits a request for the user's business card as shown at block **403**. The request may be vocal or electronic. During a call from or to the user's cellular phone, the recipient may request a receipt of the user's business card by selecting "2 Recv Bus Card" menu item, which transmits an electronic request for a business card to the

user's cellular phone. Assuming the user's phone supports the business card feature, the user receives a prompt for the business card and selects the "1 Send Bus Card" menu item in response. This allows the transaction of sending the card to proceed in the background while the user and recipient continue their conversation. A determination is made at block **405** on the recipient's cellular phone **505** whether the user's business card has been received. In the preferred embodiment, upon receipt of the encoded business card data from the cellular network **512**, the recipient's cellular phone **505** generates an audible tone as shown at block **407** to inform the recipient that a business card has been received. The received data is then decoded as shown at block **409** and the function menu simultaneously displayed with item "2 Recv Bus Card" pre-selected. The recipient is queried at block **411**, whether he wishes to view the card, and may elect to view the card by selecting "4 Show Bus Card" function menu item, which provides the recipient with a display **509** of the business card, scaled to fit in display screen **180** as shown at block **413**.

The recipient's menu selection is monitored and a determination made at block **415** whether the recipient wishes to save the business card. To receive the business card the recipient selects the "OK" key **213** or utilizes other comparable method of selection. The user may then select the method of storage desired, and the business card data is stored in a non-volatile memory of the recipient's cellular phone **505** dedicated for storing business card data (or in provider's database) as provided at block **417**. Following, the cell phone menu functions allow the user to sort the card among the various other cards according to user-defined criteria as illustrated at block **419**. Then the process ends as shown at bock **421**.

The invention thus allows the searching and sorting of stored business cards. Sorting the business cards allows a later data search to be performed based on either the contact's name or the business name, etc. Further, once a business card is

displayed, a phone number shown on a business card can automatically be dialed by selection of the appropriate menu function. Also, an email address shown on the business card can be selected for transmitting an email utilizing email access functions available on the user's cellular phone.

It is important to note that while the present invention has been described in the context of a fully functional data processing system, those skilled in the art will appreciate that the mechanism of the present invention is capable of being distributed in the form of a computer readable medium of instructions in a variety of forms, and that the present invention applies equally, regardless of the particular type of signal bearing media utilized to actually carry out the distribution. Examples of computer readable media include: nonvolatile, hard-coded type media such as Read Only Memories (ROMs) or Erasable, Electrically Programmable Read Only Memories (EEPROMs), recordable type media such as floppy disks, hard disk drives and CD-ROMs, and transmission type media such as digital and analog communication links.

While the invention has been particularly shown and described with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.